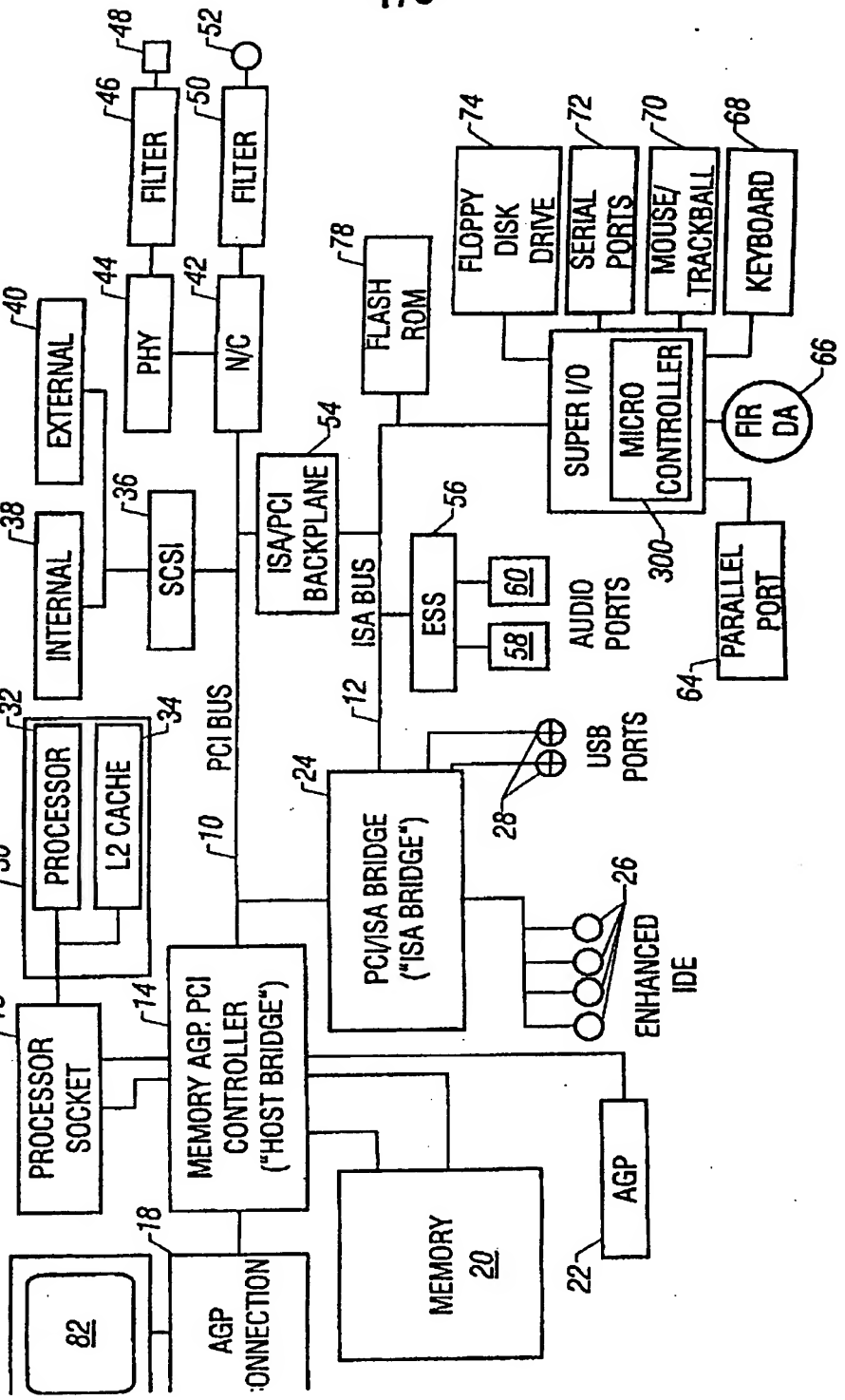
48
52
46
FILTER
50
FILTER
74
FLOPPY DISK DRIVE
72
SERIAL PORTS
70
MOUSE/ TRACKBALL
68
KEYBOARD
78
FLASH ROM
40
EXTERNAL
44
PHY
42
N/C
SUPER I/O
MICRO CONTROLLER
66
FIR DA
54
ISA/PCI BACKPLANE
36
SCSI
38
INTERNAL
56
ESS
60
58
AUDIO PORTS
300
ISA BUS
PARALLEL PORT
64
32
34
PROCESSOR
L2 CACHE
PCI BUS
12
10
24
PCI/ISA BRIDGE ("ISA BRIDGE")
28
USB PORTS
26
ENHANCED IDE
30
16
PROCESSOR SOCKET
14
MEMORY AGP PCI CONTROLLER ("HOST BRIDGE")
18
AGP CONNECTION
MEMORY 20
AGP
22
82

FIG. 1

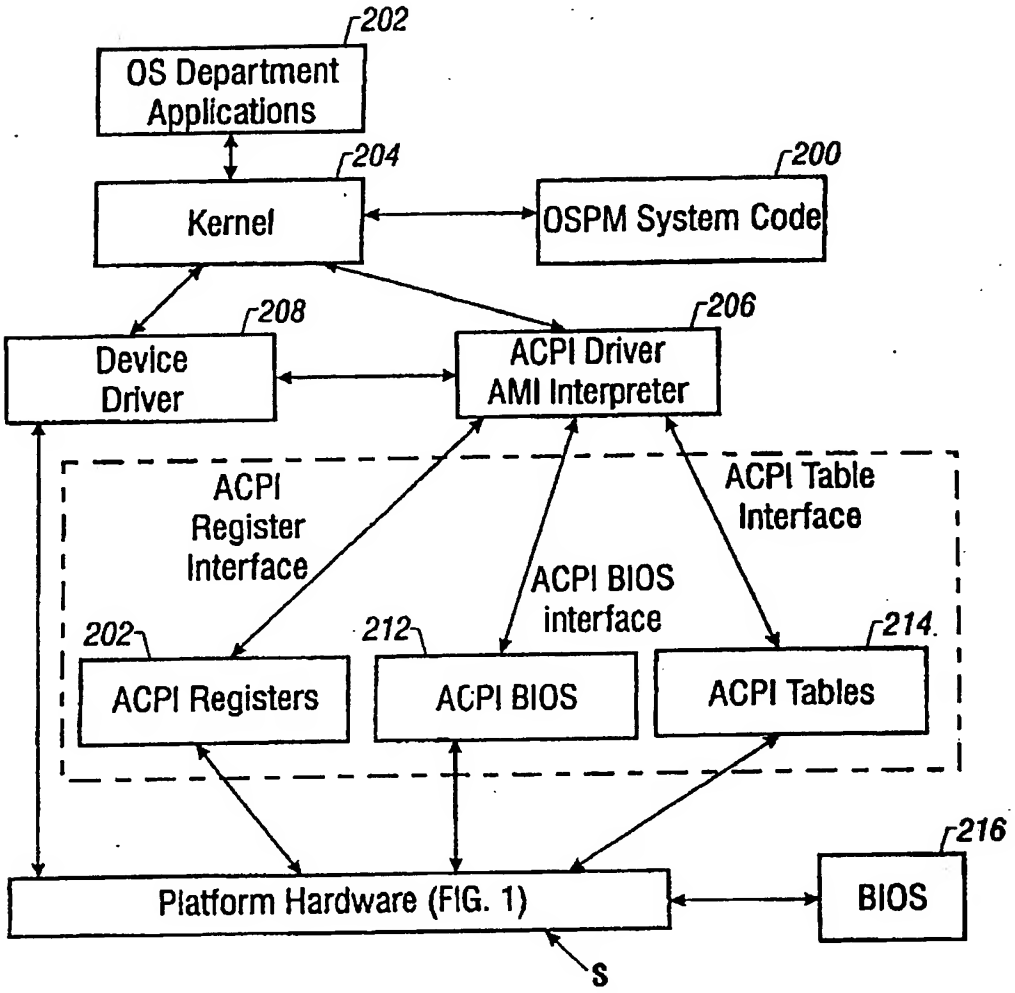
202
OS Department Applications
204
Kernel
200
OSPM System Code
208
Device Driver
206
ACPI Driver AMI Interpreter
ACPI Register Interface
ACPI Table Interface
ACPI BIOS interface
202
212
214
ACPI Registers
ACPI BIOS
ACPI Tables
216
Platform Hardware (FIG. 1)
BIOS
S

FIG. 2

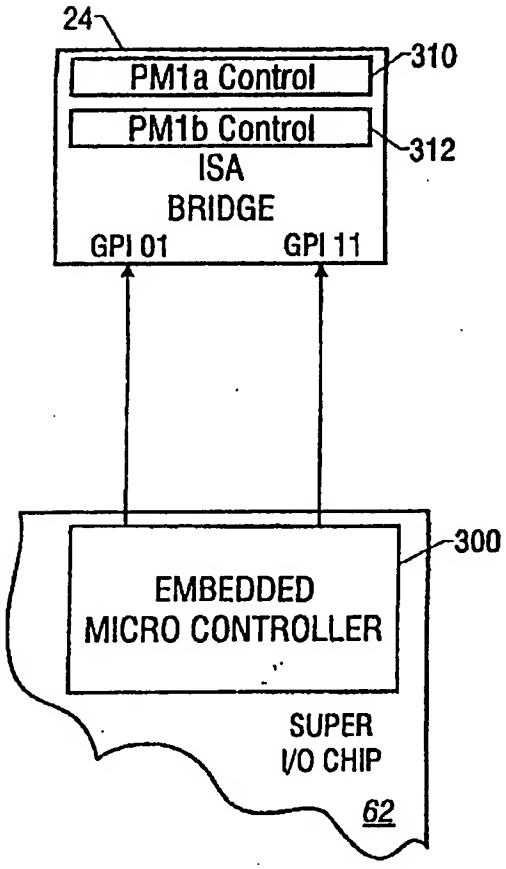
24
PM1a Control
310
PM1b Control
312
ISA
BRIDGE
GPI 01
GPI 11
300
EMBEDDED
MICRO CONTROLLER
SUPER
I/O CHIP
62

FIG. 3

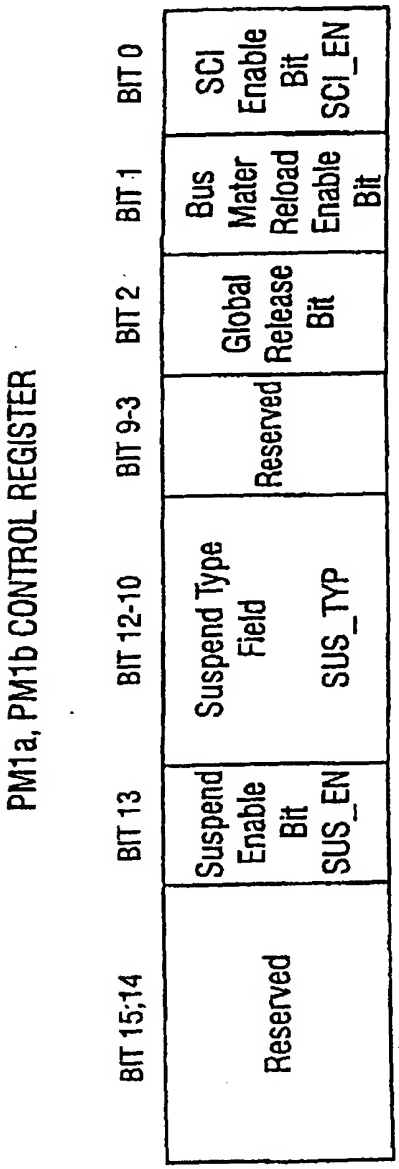
PM1a, PM1b CONTROL REGISTER
BIT 15;14
BIT 13
BIT 12-10
BIT 9-3
BIT 2
BIT 1
BIT 0
Reserved
Suspend Enable Bit SUS_EN
Suspend Type Field SUS_TYP
Reserved
Global Release Bit
Bus Mater Reload Enable Bit
SCI Enable Bit SCI_EN

FIG. 4

Intialization Process

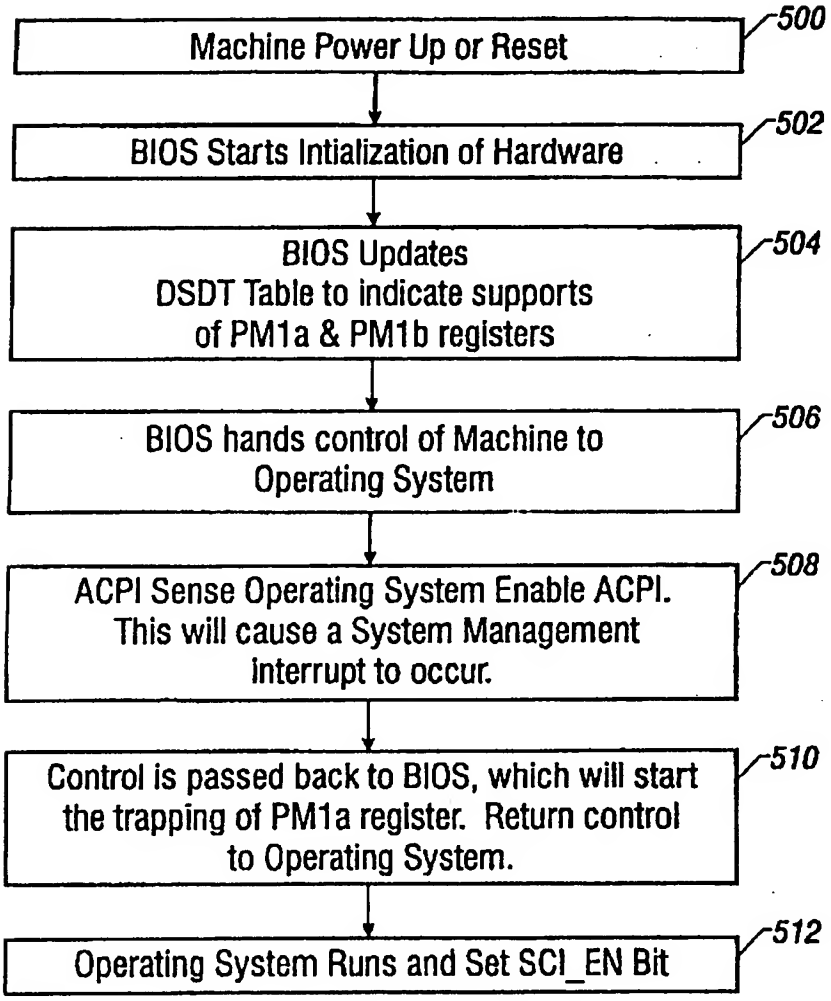

FIG. 5

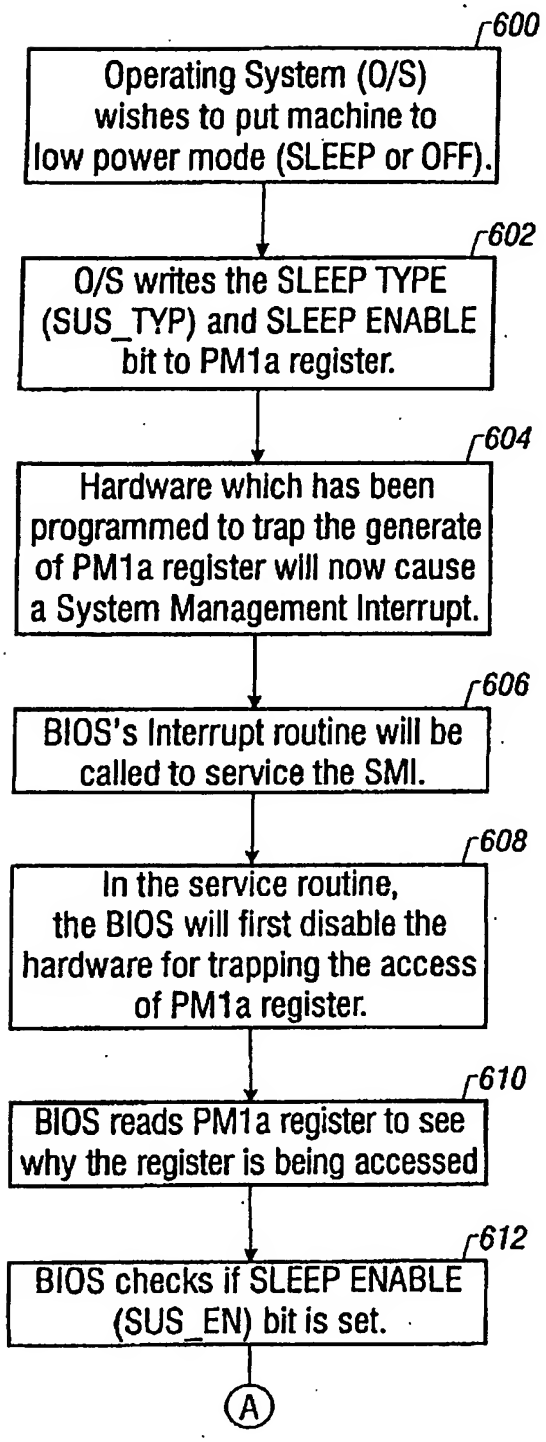
600
Operating System (O/S) wishes to put machine to low power mode (SLEEP or OFF).
602
O/S writes the SLEEP TYPE (SUS_TYP) and SLEEP ENABLE bit to PM1a register.
604
Hardware which has been programmed to trap the generate of PM1a register will now cause a System Management Interrupt.
606
BIOS's Interrupt routine will be called to service the SMI.
608
In the service routine, the BIOS will first disable the hardware for trapping the access of PM1a register.
610
BIOS reads PM1a register to see why the register is being accessed
612
BIOS checks if SLEEP ENABLE (SUS_EN) bit is set.
A

FIG. 6

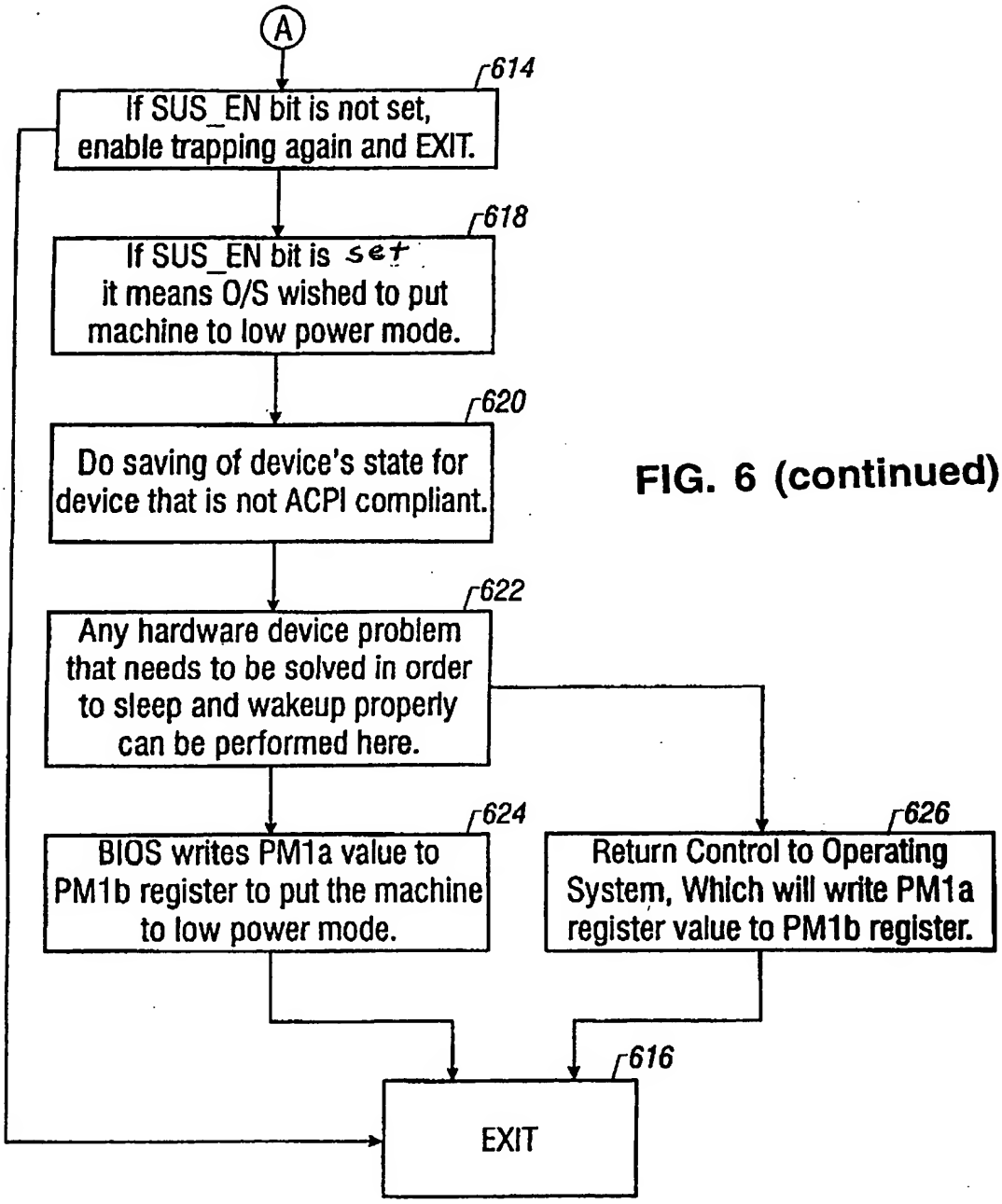

FIG. 6 (continued)

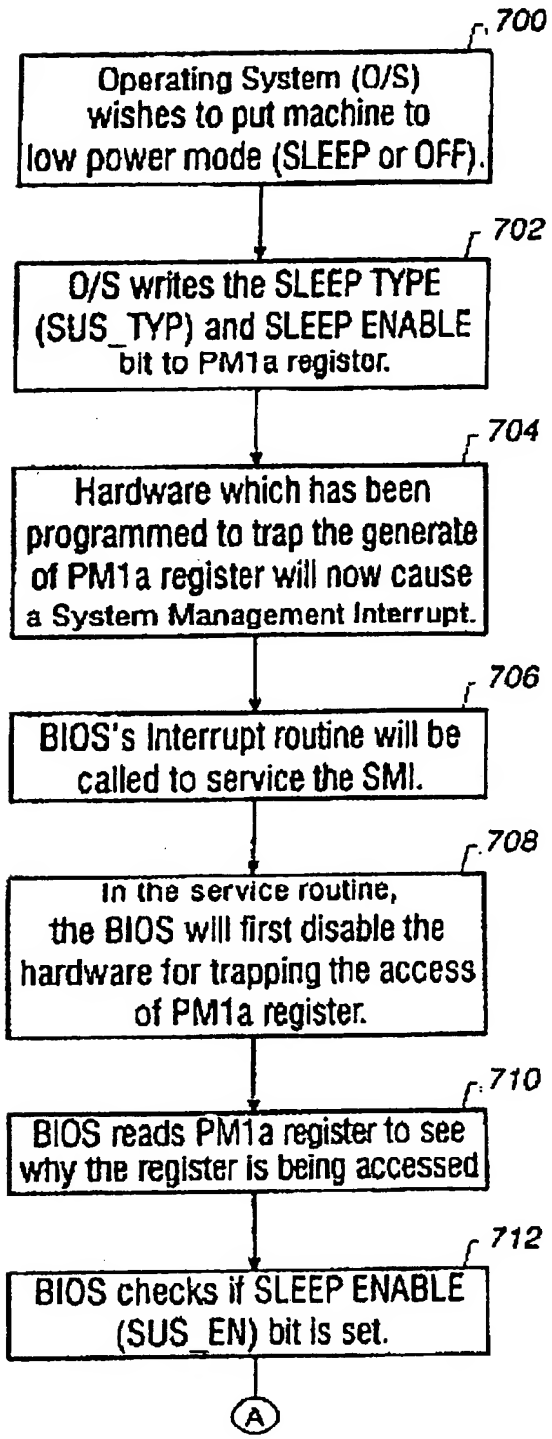
700
Operating System (O/S) wishes to put machine to low power mode (SLEEP or OFF).
702
O/S writes the SLEEP TYPE (SUS_TYP) and SLEEP ENABLE bit to PM1a register.
704
Hardware which has been programmed to trap the generate of PM1a register will now cause a System Management Interrupt.
706
BIOS's Interrupt routine will be called to service the SMI.
708
In the service routine, the BIOS will first disable the hardware for trapping the access of PM1a register.
710
BIOS reads PM1a register to see why the register is being accessed
712
BIOS checks if SLEEP ENABLE (SUS_EN) bit is set.
A

FIG. 7

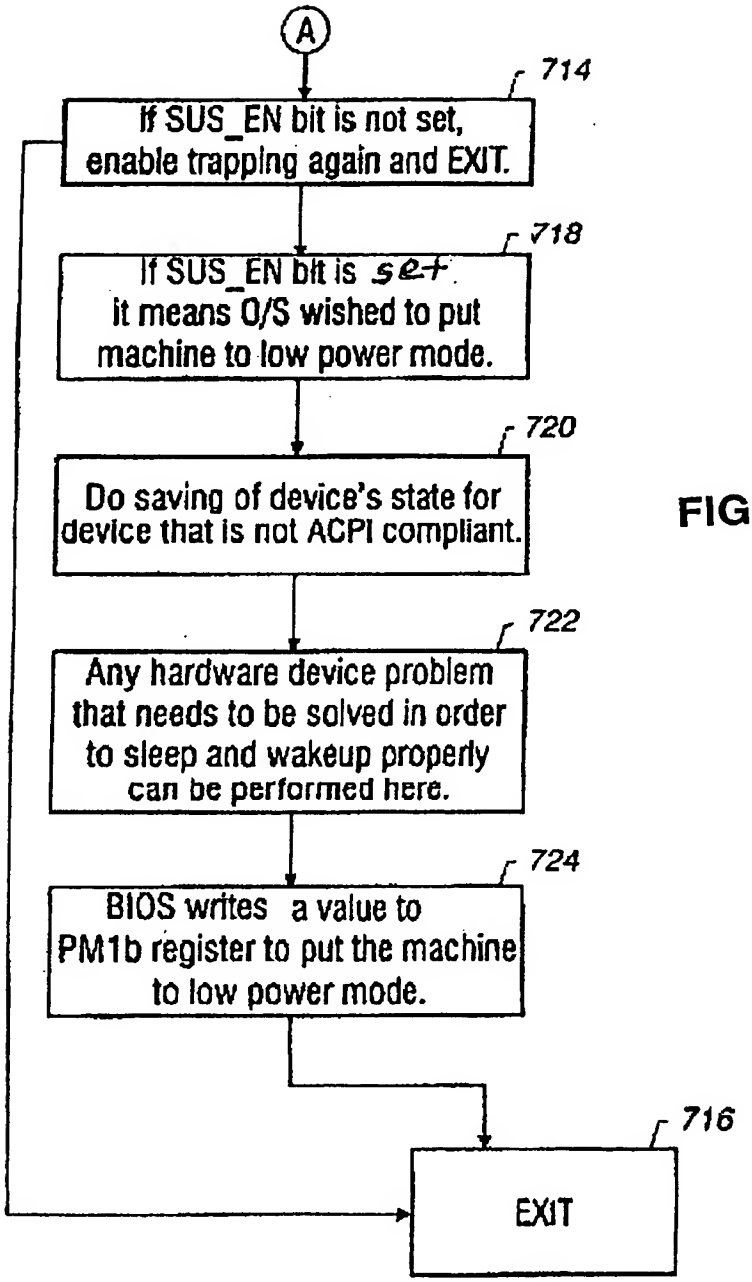

FIG. 7 (continued)